

Taddle Creek

Family Health Team

MEDICAL DIRECTIVE

Title: Administration of Vaccines/Injectable Substances, Laboratory Requisition for Immunity Testing and Prescribing of Hepatitis Vaccines

Number: TCFHT-MD15

Activation Date: 09-Sep-2014 **Review Date:** January 17, 2022

Next Review: January 17, 2023

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Order and/or Delegated Procedure:	Appendix Attached: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Title:
The implementers may, in accordance with the conditions identified in this directive: <ul style="list-style-type: none">• administer vaccinations and other injectable substances• order bloodwork to test for immunity to vaccine-preventable diseases• prescribe Hepatitis A and Hepatitis B vaccines	
Recipient Patients:	Appendix Attached: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Title: Appendix A – Authorizer Approval Form
Recipients must: <ul style="list-style-type: none">• Be active patients of a TCFHT primary care provider who has approved this directive by signing the Authorizer Approval Form• Meet the conditions identified in this directive• For immunizations and injectable substances, be 2 months of age or older and require the following vaccines/substances:<ul style="list-style-type: none">○ Diphtheria, Tetanus, Acellular Pertussis, Inactivated Poliovirus and <i>Haemophilus influenzae</i> type b 0.5ml IM	

- Pneumococcal Conjugate 13-valent **0.5ml IM**
- Rotavirus
 - Rotateq **2ml PO**
 - Rotarix **1.5 ml PO**
- Measles, Mumps and Rubella **0.5ml SC**
- Meningococcal Conjugate C **0.5ml IM**
- Meningococcal Conjugate ACYW-135 **0.5ml IM**
- Meningococcal B **0.5ml IM**
- Varicella **0.5ml SC**
- Diphtheria, Tetanus, Acellular Pertussis - Inactivated Poliovirus **0.5ml IM**
- Measles, Mumps, Rubella and Varicella **0.5ml SC**
- Diphtheria, Tetanus and Acellular Pertussis **0.5ml IM**
- Diphtheria and Tetanus **0.5ml IM**
- Pneumococcal Polysaccharide **0.5ml IM**
- *Haemophilus influenzae* type b **0.5ml IM**
- Inactivated Poliomyelitis **0.5ml SC**
- Varicella-Zoster **0.5ml IM**
- Human Papillomavirus **0.5ml IM**
- Hepatitis A:
 - Vaqta
 - 6 months-17yrs **0.5ml IM**
 - 18yrs+ **1.0ml IM**
 - Havrix
 - 6 months-18yrs **0.5ml IM**
 - 19yrs+ **1.0ml IM**
- Hepatitis B
 - Engerix-B
 - Neonates-19yrs **0.5ml IM**
 - 11-15yrs, 20yrs+ **1.0ml IM**
 - Recombivax HB
 - Neonates-19yrs **0.5ml IM**
 - 11-15yrs, 20yrs + **1.0ml IM**
- Hepatitis A/Hepatitis B
 - Twinrix Jr.
 - 6 months-18yrs **0.5ml IM**
 - Twinrix
 - 6 months-15yrs **1.0ml IM**
 - 19yrs+ **1.0ml IM**
- Salmonella typhi **0.5ml IM**
- Allergy shots **dose varies by patient** – administered **SC**
- Vitamin B12 **dose varies by patient** – administered **IM**
- Denosumab **1ml (60mg) SC**
- Imovax Rabies **1.0 ml IM**
- Leuprolide acetate **dose varies by patient** – administered **IM**
- COVID-19
 - Pfizer-BioNTech: Comirnaty
 - 12 yrs+ **0.3 ml IM**

- 5-11 yrs 0.2 ml IM
 - Moderna: Spikevax
 - 12 yrs+ **0.5 ml IM**
 - AstraZeneca: Vaxzevria / Covishield
 - 18 yrs+ **0.5 ml IM**
 - Janssen COVID-19 vaccine
 - 18 yrs+ **0.5 ml IM**
- For laboratory requisition and prescribing of Hepatitis A and Hepatitis B vaccines, be 16 years of age or older
- For laboratory requisition only, require serologic proof of immunity to any of the following: measles, mumps, rubella, varicella, hepatitis A and hepatitis B

Authorized Implementers:Appendix Attached: No Yes

Title: Appendix B – Implementer Approval Form

Appendix C – Additional Voluntary Preparation

Implementers must be TCFHT-employed Regulated Health Care Providers or Physician Assistant (under the supervision of a physician).

Implementers must complete the following preparation and sign the Implementer Approval Form:

1. Complete certification in CPR (minimum level C plus AED training); during the COVID-19 pandemic, recertification is post-poned until it is safe to do training in person
2. Demonstrate clinical competence and knowledge to supervising physician(s) and/or nurse practitioner(s) and be observed on at least 3 occasions while implementing this medical directive
3. Review and be familiar with the *Publicly Funded Immunization Schedules for Ontario – January 2021*, accessible from:
https://www.health.gov.on.ca/en/pro/programs/immunization/docs/publicly_funded_immunization_schedule.pdf
4. Review and be familiar with the *Canadian Immunization Guide*, accessible from:
<https://www.canada.ca/en/public-health/services/canadian-immunization-guide.html> including but not limited to Recommendations on the use of COVID-19 vaccines
5. Review and be familiar with the most current clinical practice guidelines for reducing pain in immunization as per “Reducing pain during vaccine injections: clinical practice guideline” in the *Canadian Medical Association Journal*, accessible from:
<https://www.cmaj.ca/content/cmaj/187/13/975.full.pdf>
6. Review most current guidelines for anaphylaxis management in the *Canadian Immunization Guide, Part 2 – Vaccine Safety: Anaphylaxis and other Acute Reactions following Vaccination*, accessible from: <https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-2-vaccine-safety/page-4-early-vaccine-reactions-including-anaphylaxis.html>

In addition, Registered Pharmacist implementers must complete an Ontario College of Pharmacists (OCP)-approved injection training course and must register their training with the OCP.

Note: Implementers may opt to complete further preparation with the readings found in Appendix C.

Indications:**Appendix Attached:** No Yes**Title:** Appendix D – Vaccine Contraindications and Precautions; Appendix E – Guidelines for the Interval Between Administration of Blood Products and Live Vaccines

1. The implementers are authorized to administer vaccines and injectable substances to any patients, aged 2 months and older, as recommended in the National Advisory Committee on Immunization (NACI) guidelines and with reference to the *Publicly Funded Immunization Schedules for Ontario – January 2021*. If receiving more than one vaccine/injectable substance at one time, the implementer will ensure there is no interaction between the vaccines and/or injectable substances. For the COVID-19 vaccine, the implementer will explain that this vaccine can be given at the same time or at any time before or after other vaccines (in adults), sharing the risks and benefits based on data and guidance currently available. The implementer will consult with a physician or nurse practitioner if any contraindication to receiving the vaccine/injectable substance is identified in the initial screening. After consultation, if the vaccine or injectable substance is to be given, the physician or nurse practitioner will review the implementer's documentation in the EMR and will document his/her own assessment as well.

Contraindications to vaccines and injectable substances:

- Severe acute illness with or without a fever
- History of severe allergic reaction with previous dose of the vaccine/substance or allergy to one or more of its components
- Pregnancy or immunosuppression (live vaccines only)
- Patient has a contraindication specific to a particular vaccine/injectable substance as per product monograph and/or appendices (refer to Appendix D for a list of contraindications for vaccines and COVID-19 Vaccine: Canadian Immunization Guide)

Precautions for vaccines and injectable substances:

- Moderate acute illness with or without a fever
- Febrile or has been febrile in the past 24-48 hours
- Rash
- Pregnancy
- Immunosuppression
- Patient has received blood products or immune globulin (Ig) preparations in the last 12 months (refer to Appendix E for timing intervals)

*Refer to Appendix D for list of precautions for vaccines and NACI's Recommendations on the use of COVID-19 vaccines (see reference list for the link)

When to defer live-virus vaccines:

- If the patient requires a TB skin test (TST) within 4 weeks, defer live-virus vaccine until after TST is complete as the vaccine may temporarily depress the reactivity to TST. If patient unable to defer, administer live-virus vaccine on the same day as the TST but at a different site.
- If the patient will be receiving blood products or immune globulin (Ig) preparations in the next 14 days, as per Appendix E

2. The implementers are authorized to complete a laboratory requisition for measles, mumps, rubella, varicella, hepatitis A and/or hepatitis B titers when a patient requires evidence of immunity.

Contraindications to laboratory requisition for immunity testing:

- Patient is currently symptomatic for the disease for which immunity is being tested
- Post-exposure testing
- Patient received a vaccine < 4 weeks ago for the disease for which immunity is being tested
- Patient received immunoglobulin in the past 4-6 months

3. The implementers are authorized to prepare a prescription for Hepatitis B or Hepatitis A/B vaccine if the patient has demonstrated non-immunity to the disease(s) or lacks previous immunization and they are 16 years of age or older.

Consent:

Appendix Attached: No Yes
Title:

- The implementer will obtain verbal consent from the patient or legal substitute decision maker for the administration of a vaccine or injectable substance, and will explain any potential risks and benefits prior to administering the injection.
- Patient's consent for the order of titers is implied, as the patient has presented seeking proof of immunity to specific diseases and is a Family Health Team patient where interprofessional practice is expected. Patient is informed of the purpose of testing for immunity, including when results will be available, and contact information is obtained for the review of the results (if not contacted by the primary care provider).

Guidelines for Implementing the Order/Procedure:

Appendix Attached: No Yes
Title: Appendix F – Laboratory Requisitions

For administration of vaccines/injectable substances:

Prior to the administration of vaccines or injectable substances, the implementer will review with the patient or patient's guardian the purpose of and any adverse effects related to the vaccines or injectable substances.

Authorized implementer may administer the vaccine or injectable substance upon receiving consent and after confirming appropriateness (according to NACI guidelines, if a vaccine).

Injections will be administered according to the administration instructions printed in the designated vaccine's product monograph. Universal precautions will be taken to minimize transmission of bloodborne pathogens and ensure patient and clinician safety. The implementer will use evidence-based strategies and techniques to minimize the pain of injection, as per the Clinical Practice Guidelines outlined by the Canadian Medical Association (see References).

A physician or nurse practitioner must be readily accessible on-site in the FHT for assessment and decision-making for patients who have contraindications to receiving the vaccine/injectable substance, and to provide emergency treatment should a patient experience an acute, adverse reaction to the vaccine/injectable substance. A second person must also be present in the clinic, where the vaccine/injectable substance is being administered, for the purposes of safety and emergency response.

For laboratory requisition for immunity testing, implementer performs the following:

- 1) Identifies need for laboratory investigation (bloodwork)

- 2) Ensures that no recent bloodwork has been undertaken that would result in duplication of testing
- 3) Explains the purpose of the test to the patient
- 4) Generates a laboratory requisition(s) using the supervising primary care provider's/authorizer's initials
- 5) Laboratory requisition(s) is signed as per Appendix F
- 6) Sends a message in the EMR to the primary care provider indicating that a laboratory requisition has been provided
- 7) Documents that a laboratory requisition has been provided
- 8) Follows up with the results promptly when available and reviews these findings with the patient's primary care provider in a timely manner so that appropriate treatment or follow-up care is implemented*. Implementer will ensure that results are communicated to the patient and that treatment and/or follow-up testing is completed as per guidelines.

*Bloodwork results will be interpreted with caution in cases of immunodeficiency.

For prescription of Hepatitis B vaccine:

Prior to preparing a prescription for Hepatitis B vaccine, the implementer will assess for immunity against Hepatitis A. If the patient has no history of Hepatitis A vaccination or is found to be non-immune to Hepatitis A, the implementer will discuss with the patient vaccination for Hepatitis B alone vs. vaccination for Hepatitis A and B, including the schedule, cost and benefits/risks of each vaccine. The implementer will prepare a prescription for the chosen vaccine.

Documentation and Communication:	Appendix Attached: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Title: Appendix G – TCFHT-MD15 Stamp
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The implementer will document administration of a vaccine in the "Immunizations" section of the patient's file in the EMR and administration of a vaccine/injectable substance in a chart note in the patient's file in the EMR using the stamp TCFHT-MD15_Vaccines_and_Injectable_Substances (see Appendix G). Information to be documented will include: brand and dose of vaccine/substance used, lot number, expiry date, area of body that is injected, route of injection and details of any adverse reaction that occurs. A physician or nurse practitioner will be alerted immediately if an adverse reaction occurs.

The implementer will advise the patient of the schedule for further doses of the vaccine or injectable substance, if applicable.

The implementer will document in the EMR that the patient was provided with a laboratory requisition for immunity testing and the disease(s) for which immunity is being tested. Documentation will include name and number of the directive.

Review and Quality Monitoring Guidelines:	Appendix Attached: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Title:
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- Review will occur annually on the anniversary of the activation date. Review will involve a collaboration between the authorizing primary care providers and the approved implementers.
- If new information becomes available between routine reviews, such as the publishing of updated Publicly Funded Immunization Schedules for Ontario or new clinical practice guidelines, and particularly if this new information has implications for unexpected outcomes, the directive will be reviewed by an authorizing primary care provider and a minimum of one implementer.

- At any such time that issues related to the use of this directive are identified, TCFHT must act upon the concerns and immediately undertake a review of the directive by the authorizing primary care providers and the authorized implementers.
- This medical directive can be placed on hold if routine review processes are not completed, or if indicated for an ad hoc review. During the hold, implementers cannot perform the procedures under authority of the directive and must obtain direct, patient-specific orders for the procedure until it is renewed.

References:

Canadian Immunization Guide, accessible from: <https://www.canada.ca/en/public-health/services/canadian-immunization-guide.html>

Canadian Immunization Guide: Part 1 – Key Immunization Information: Blood products, human immunoglobulin and timing of immunization, accessible from: <https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-1-key-immunization-information/page-11-blood-products-human-immune-globulin-timing-immunization.html#p1c10t1>

Canadian Immunization Guide: Part 2 – Vaccine Safety: Anaphylaxis and other Acute Reactions following Vaccination, accessible from: <https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-2-vaccine-safety/page-4-early-vaccine-reactions-including-anaphylaxis.html>

COVID-19 vaccine: Canadian Immunization Guide - <https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-4-active-vaccines/page-26-covid-19-vaccine.html>

Individual product monographs for vaccines and injection medications listed

Publicly Funded Immunization Schedules for Ontario – January 2021 accessible from: https://www.health.gov.on.ca/en/pro/programs/immunization/docs/publicly_funded_immunizationschedule.pdf

Reducing pain during vaccine injections: clinical practice guideline, *Canadian Medical Association Journal*, accessible from: <https://www.cmaj.ca/content/cmaj/187/13/975.full.pdf>

Sorensen, R.U., & Paris, K. (2020). *Assessing antibody function as part of an immunologic evaluation*, accessible from: https://www.uptodate.com/contents/assessing-antibody-function-as-part-of-an-immunologic-evaluation?search=titers§ionRank=2&usage_type=default&anchor=H530391412&source=machineLearning&selectedTitle=1~150&display_rank=1#H530391412

Vaccine Recommendations and Guidelines of the ACIP - Contraindications and Precautions, *Centers for Disease Control and Prevention*, accessible from: <https://www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.pdf>

Appendix A:

Authorizer Approval Form

Name	Signature	Date
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Appendix B:

Implementer Approval Form

To be signed when the implementer has completed the required preparation, and feel they have the knowledge, skill, and judgement to competently carry out the actions outlined in this directive.

Name	Signature	Date
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Appendix C:**Additional Voluntary Preparation**

Hepatitis A – Serology, accessible from:

<https://www.publichealthontario.ca/en/laboratory-services/test-information-index/hepatitis-a-serology>

Hepatitis B – Serology, accessible from: <https://www.publichealthontario.ca/en/laboratory-services/test-information-index/hepatitis-b-serology>

Interpretation of Hepatitis B Serologic Test Results, accessible from:

<https://www.cdc.gov/hepatitis/hbv/pdfs/serologicchartv8.pdf>

Measles – Immunity Serology, accessible from: <https://www.publichealthontario.ca/en/laboratory-services/test-information-index/measles-diagnostic-serology>

Mumps – Immunity Serology, accessible from: <https://www.publichealthontario.ca/en/laboratory-services/test-information-index/mumps-immunity-serology>

Rubella – Immunity Serology, accessible from:

<https://www.publichealthontario.ca/en/laboratory-services/test-information-index/rubella-serology>

Varicella – Immunity Serology, accessible from: <https://www.publichealthontario.ca/en/laboratory-services/test-information-index/varicella-serology>

**Appendix D:
Vaccine Contraindications and Precautions**

TABLE 4-1. Contraindications and precautions^(a) to commonly used vaccines

Vaccine	Citation	Contraindications	Precautions
DT, Td	(4)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component	GBS <6 weeks after previous dose of tetanus-toxoid–containing vaccine History of Arthus-type hypersensitivity reactions after a previous dose of diphtheria-toxoid–containing or tetanus-toxoid–containing vaccine; defer vaccination until at least 10 years have elapsed since the last tetanus-toxoid–containing vaccine Moderate or severe acute illness with or without fever
DTaP	(38)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component Encephalopathy (e.g., coma, decreased level of consciousness, prolonged seizures), not attributable to another identifiable cause, within 7 days of administration of previous dose of DTP or DTaP	Progressive neurologic disorder, including infantile spasms, uncontrolled epilepsy, progressive encephalopathy; defer DTaP until neurologic status clarified and stabilized GBS <6 weeks after previous dose of tetanus-toxoid–containing vaccine History of Arthus-type hypersensitivity reactions after a previous dose of diphtheria-toxoid–containing or tetanus-toxoid–containing vaccine; defer vaccination until at least 10 years have elapsed since the last tetanus-toxoid–containing vaccine Moderate or severe acute illness with or without fever
Hepatitis A	(39)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component	Moderate or severe acute illness with or without fever
Hepatitis B	(40)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component Hypersensitivity to yeast	Moderate or severe acute illness with or without fever
Hib	(41)	Severe allergic reaction (e.g., anaphylaxis) after	Moderate or severe acute illness with or without fever

		a previous dose or to a vaccine component Age <6 weeks	
HPV ^(b)	(42)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component, including yeast	Moderate or severe acute illness with or without fever
IIV	(43)	Severe allergic reaction (e.g., anaphylaxis) after previous dose of influenza vaccine or to vaccine component.	GBS <6 weeks after a previous dose of influenza vaccine Moderate or severe acute illness with or without fever Egg allergy other than hives, e.g., angioedema, respiratory distress, lightheadedness, recurrent emesis; or required epinephrine or another emergency medical intervention (IIV may be administered in an inpatient or outpatient medical setting and under the supervision of a health care provider who is able to recognize and manage severe allergic conditions).
IPV	(44)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component	Pregnancy Moderate or severe acute illness with or without fever

LAIV ^(c)	(43)	<p>Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component</p> <p>Concomitant use of aspirin or aspirin-containing medication in children and adolescents</p> <p>LAIV4 should not be administered to persons who have taken oseltamivir or zanamivir within the previous 48 hours, peramivir within the previous 5 days, or baloxavir within the previous 17 days.^(e)</p> <p>Pregnancy</p> <p>Children aged 2 through 4 years who have received a diagnosis of asthma or whose parents or caregivers report that a health care provider has told them during the preceding 12 months that their child had wheezing or asthma or whose medical record indicates a wheezing episode has occurred during the preceding 12 months.</p> <p>Persons with active cerebrospinal fluid/oropharyngeal communications/leaks.</p> <p>Close contacts and caregivers of severely immunosuppressed persons who require a protected environment.</p>	<p>GBS <6 weeks after a previous dose of influenza vaccine</p> <p>Asthma in persons aged 5 years old or older</p> <p>Medical conditions which might predispose to higher risk of complications attributable to influenza^(d)</p> <p>Moderate or severe acute illness with or without fever</p>
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		<p>Persons with cochlear implants (due to the potential for CSF leak, which might exist for some period of time after implantation. Providers might consider consultation with a specialist concerning risk of persistent CSF leak if an age-appropriate inactivated or recombinant vaccine cannot be used).</p> <p>Altered Immunocompetence</p> <p>Anatomic or functional asplenia (e.g. sickle cell disease)</p>	
MenACWY	(45)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component, including yeast	Moderate or severe acute illness with or without fever Preterm birth (MenACWY-CRM) ^(f)
MenB	(46,47)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component	Moderate or severe acute illness with or without fever Pregnancy Latex sensitivity (MenB-4c)

MMR ^{(g),(h)}	(1)	<p>Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component</p> <p>Pregnancy</p> <p>Known severe immunodeficiency (e.g., from hematologic and solid tumors, receipt of chemotherapy, congenital immunodeficiency, long-term immunosuppressive therapy⁽ⁱ⁾ or patients with HIV infection who are severely immunocompromised)</p> <p>Family history of altered immunocompetence⁽ⁱ⁾</p>	<p>Recent (≤ 11 months) receipt of antibody-containing blood product (specific interval depends on product)</p> <p>History of thrombocytopenia or thrombocytopenic purpura</p> <p>Need for tuberculin skin testing or interferon-gamma release assay (IGRA) testing^(k)</p> <p>Moderate or severe acute illness with or without fever</p>
MPSV4	(48)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component	Moderate or severe acute illness with or without fever
PCV13	(49)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose of PCV13 or any diphtheria-toxoid-containing vaccine or to a component of a vaccine (PCV13 or any diphtheria-toxoid-containing vaccine), including yeast	Moderate or severe acute illness with or without fever
PPSV23	(50)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component	Moderate or severe acute illness with or without fever
RIV	(43)	Severe allergic reaction (e.g., anaphylaxis) to any component of the vaccine	<p>GBS <6 weeks after a previous dose of influenza vaccine</p> <p>Moderate or severe acute illness with or without fever</p>

Rotavirus	(6)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component SCID History of intussusception	Altered immunocompetence other than SCID Chronic gastrointestinal disease ^(l) Spina bifida or bladder exstrophy ^(l) Moderate or severe acute illness with or without fever
Tdap	(51)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component Encephalopathy (e.g., coma, decreased level of consciousness, prolonged seizures), not attributable to another identifiable cause, within 7 days of administration of previous dose of DTP, DTaP, or Tdap	GBS <6 weeks after a previous dose of tetanus-toxoid-containing vaccine Progressive or unstable neurological disorder, uncontrolled seizures, or progressive encephalopathy until a treatment regimen has been established and the condition has stabilized History of Arthus-type hypersensitivity reactions after a previous dose of diphtheria-toxoid-containing vaccine; defer vaccination until at least 10 years have elapsed since the last tetanus-toxoid-containing vaccine Moderate or severe acute illness with or without fever
Varicella ^{(g),(h)})	(52)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component Known severe immunodeficiency (e.g., from hematologic and solid tumors, receipt of chemotherapy, congenital immunodeficiency, long-term immunosuppressive therapy ⁽ⁱ⁾ or patients with HIV infection who are severely immunocompromised) ^(g) Pregnancy Family history of altered immunocompetence ⁽ⁱ⁾	Recent (≤ 11 months) receipt of antibody-containing blood product (specific interval depends on product) Moderate or severe acute illness with or without fever Receipt of specific antiviral drugs (acyclovir, famciclovir, or valacyclovir) 24 hours before vaccination (avoid use of these antiviral drugs for 14 days after vaccination) Use of aspirin or aspirin-containing products ^(m)

Zoster	(53)	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component	Moderate or severe acute illness with or without fever
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Abbreviations: DT = diphtheria and tetanus toxoids; DTaP = diphtheria and tetanus toxoids and acellular pertussis; DTP = diphtheria toxoid, tetanus toxoid, and pertussis; GBS = Guillain-Barré syndrome; Hib = *Haemophilus influenzae* type b; HIV = human immunodeficiency virus; HPV = human papillomavirus; IIV = inactivated influenza vaccine; IPV = inactivated poliovirus; LAIV = live, attenuated influenza vaccine; MenACWY = quadrivalent meningococcal conjugate vaccine; MMR = measles, mumps, and rubella; MPSV4 = quadrivalent meningococcal polysaccharide vaccine; PCV13 = pneumococcal conjugate vaccine; PPSV23= pneumococcal polysaccharide vaccine; SCID = severe combined immunodeficiency; RIV=recombinant influenza vaccine; Td = tetanus and diphtheria toxoids; Tdap = tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis.

(a) Events or conditions listed as precautions should be reviewed carefully. Benefits of and risks for administering a specific vaccine to a person under these circumstances should be considered. If the risk from the vaccine is believed to outweigh the benefit, the vaccine should not be administered. If the benefit of vaccination is believed to outweigh the risk, the vaccine should be administered. Whether and when to administer DTaP to children with proven or suspected underlying neurologic disorders should be decided on a case-by-case basis.

(b) HPV vaccine is not recommended during pregnancy

(c) In addition, ACIP recommends LAIV not be used for pregnant women, immunosuppressed persons, and children aged 2-4 years who have asthma or who have had a wheezing episode noted in the medical record within the past 12 months, or for whom parents report that a health-care provider stated that they had wheezing or asthma within the last 12 months. LAIV should not be administered to persons who have taken influenza antiviral medications within the previous 48 hours. Persons who care for severely immunosuppressed persons who require a protective environment should not receive LAIV, or should avoid contact with such persons for 7 days after receipt.

(d) See reference: Grohskopf L, Alyanak E, Broder KR, et al., Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices – United States, 2020–21 Influenza Season. *MMWR Recomm Rep* 2020;69(No. RR-8):1-26.

(e) These values are based on the clearance of the particular antiviral. LAIV4 should not be administered to persons who have taken oseltamivir or zanamivir within the previous 48 hours, peramivir within the previous 5 days, or baloxavir within the previous 17 days. This “contraindication” is due to concern with reduced effectiveness of the vaccine. To obtain specific information, please refer to Grohskopf LA, Alyanak, E, Broder KR, et. al. Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices – United States, 2020–21 Influenza Season. *MMWR Recomm Rep* 2020;69 (No. RR-8:1-26. Also at <https://www.cdc.gov/mmwr/volumes/69/rr/pdfs/rr6908a1-H.pdf>

(f) This precaution applies to infants younger than 9 months old

(g) HIV-infected children may receive varicella vaccine if CD4+ T-lymphocyte count is $\geq 15\%$ and should receive MMR vaccine if they are aged ≥ 12 months and do not have evidence of current severe immunosuppression (i.e., individuals aged ≤ 5 years must have CD4+T lymphocyte [CD4] percentages $\geq 15\%$ for ≥ 6 months; and individuals aged >5 years must have CD4+percentages $\geq 15\%$ and CD4+ ≥ 200 lymphocytes/mm³ for ≥ 6 months) or other current evidence of measles, rubella, and mumps immunity. In cases when only CD4+cell counts or only CD4+percentages are available for those older than age 5 years, the assessment of severe immunosuppression can be based on the CD4+values (count or percentage) that are available. In cases when CD4+percentages are not available for those aged ≤ 5 years, the assessment of severe immunosuppression can be based on age-specific CD4+counts at the time CD4+counts were measured; i.e., absence of severe immunosuppression is defined as ≥ 6 months above age-specific CD4+count criteria: CD4+count >750 lymphocytes/mm³ while aged ≤ 12 months and CD4+count ≥ 500 lymphocytes/mm³ while aged 1 through 5 years.

Sources: (1,50).

(h) MMR and varicella-containing vaccines can be administered on the same day. If not administered on the same day, these vaccines should be separated by at least 28 days.

(i) A substantially immunosuppressive steroid dose is considered to be ≥ 2 weeks of daily receipt of 20 mg or 2 mg/kg body weight of prednisone or equivalent.

(j) family history of congenital or hereditary immunodeficiency in first-degree relatives (e.g., parents and siblings), unless the immune competence of the potential vaccine recipient has been substantiated clinically or verified by a laboratory

(k) If active tuberculosis is suspected, MMR should be delayed. Measles vaccination might suppress tuberculin reactivity temporarily. Measles-containing vaccine can be administered on the same day as tuberculin skin or IGRA testing. If testing cannot be performed until after the day of MMR vaccination, the test should be postponed for ≥ 4 weeks after the vaccination. If an urgent need exists to skin test or IGRA, do so with the understanding that reactivity might be reduced by the vaccine.

(l) For RV1 only, based on latex in product/packaging. Note that anaphylactic allergy to latex is covered in the contraindication, and would also be isolated to RV 1 in the case of latex. For more details, see (55).

(m) No adverse events associated with the use of aspirin or aspirin-containing products after varicella vaccination have been reported; however, the vaccine manufacturer recommends that vaccine recipients avoid using aspirin or aspirin-containing products for 6 weeks after receiving varicella vaccines because of the association between aspirin use and Reye syndrome after varicella. Vaccination with subsequent close monitoring should be considered for children who have rheumatoid arthritis or other conditions requiring therapeutic aspirin. The risk for serious complications associated with aspirin is likely to be greater in children in whom natural varicella develops than it is in children who receive the vaccine containing attenuated VZV. No association has been documented between Reye syndrome and analgesics or antipyretics that do not contain aspirin.”

(Centers for Disease Control and Prevention, accessed January 2022)

Appendix E:**Guidelines for the Interval Between Administration of Blood Products and Live Vaccines****Table 1: Guidelines for the interval between administration of immunoglobulin (Ig) preparations or blood products and measles-mumps-rubella (MMR), measles-mumps-rubella-varicella (MMRV) or monovalent varicella vaccine to maximize immunization effectiveness**

Immunoglobulin or blood product	Dose, route	Interval between receipt of Ig or blood product and subsequent administration of MMR, MMRV or monovalent varicella vaccine (months)
Standard immunoglobulin (human) ¹		
Immunoglobulin (Ig)	0.02 - 0.06 mL/kg, IM	3
	0.25 mL/kg, IM	5
	0.50 mL/kg, IM	6
Intravenous immunoglobulin (IVIg)	300 - 400 mg/kg, IV	8
	1,000 mg/kg, IV	10
	2,000 mg/kg, IV	11

Blood transfusion products		
Plasma and platelet products	10 mL/kg, IV	7
Whole blood	10 mL/kg, IV	6
Packed red blood cells	10 mL/kg, IV	5
Reconstituted red blood cells	10 mL/kg, IV	3
Washed red blood cells ²	10 mL/kg, IV	0
Specific immunoglobulin (human)		
Cytomegalovirus immunoglobulin (CMVlg)	150 mg/kg, IV	6
Hepatitis B immunoglobulin (HBlg)	0.06 mL/kg, IM	3
Rabies immunoglobulin (Rablg)	20 IU/kg, IM	4
Rh immunoglobulin (Rhlg)	300 mcg, IM	3 ³
Tetanus immunoglobulin (Tlg)	250 units, IM	3
Varicella immunoglobulin (Varlg)	125 IU/10 kg, IM	5

Specific immunoglobulin (humanized monoclonal antibody)



Respiratory syncytial virus monoclonal antibody (palivizumab) (RSVAb)	15 mg/kg/4 weeks, IM	0
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- 1 Ig can also be administered subcutaneously (SCIg). SCIg is primarily indicated as life-long replacement therapy in patients with primary antibody deficiencies for whom immunization with live vaccines is contraindicated. However, potential alternative indications for SCIg therapy may result in temporary use and discontinuation of therapy. Because pharmacokinetic properties of Ig G following SCIg administration have been shown to resemble those following IVIg administration, the recommended interval between the administration of SCIg and MMR, MMRV or monovalent varicella vaccines should be considered equivalent to the recommended interval after the corresponding IVIg monthly dosing.
- 2 washed red blood cells are infrequently used
- 3 refer to [*Rh immunoglobulin*](#) for additional information

(Government of Canada, January 2020)

Appendix F:

Laboratory Requisitions

 Ontario Ministry of Health and Long-Term Care Laboratory Requisition Requisitioning Clinician / Practitioner		Laboratory Use Only	
Name Sarah Naomi Shaw		Clinician/Practitioner's Contact Number for Urgent Results (416) 591-1222 Ext	
Address 790 Bay Street Suite 522, Box 58/59 Toronto, ON M5G 1N8		Service Date yyyy mm dd 2015 01 01	
Clinician/Practitioner Number 022777	CPSO / Registration No.	Health Number	Version Sex <input checked="" type="checkbox"/> M <input type="checkbox"/> F
Check (✓) one: <input checked="" type="checkbox"/> OHIP/Insured <input type="checkbox"/> Third Party / Uninsured <input type="checkbox"/> WSIB		Province Other Provincial Registration Number	Patient's Telephone Contact Number (416) 466-8214
Additional Clinical Information (e.g. diagnosis)		Patient's Last Name (as per OHIP Card) Mouse	
<input type="checkbox"/> Copy to: Clinician/Practitioner		Patient's First & Middle Names (as per OHIP Card) Mickey	
Last Name:	First Name:	Patient's Address (including Postal Code) 31 Inwood Ave Toronto, ON M4J 3Y2	
Address:			
Note: Separate requisitions are required for cytology, histology / pathology and tests performed by Public Health Laboratory			
<input checked="" type="checkbox"/> Biochemistry		<input checked="" type="checkbox"/> Hematology	
Glucose <input type="checkbox"/> Random <input type="checkbox"/> Fasting		CBC	
HbA1C		Prothrombin Time (INR)	
Creatinine (eGFR)		<input checked="" type="checkbox"/> Immunology	
Uric Acid		Pregnancy Test (Urine)	
Sodium		Mononucleosis Screen	
Potassium		<input checked="" type="checkbox"/> Rubella	
ALT		Prenatal: ABO, RhD, Antibody Screen (titre and ident. if positive)	
Alk. Phosphatase		Repeat Prenatal Antibodies	
Bilirubin		<input type="checkbox"/> Total PSA <input type="checkbox"/> Free PSA	
Albumin		<input type="checkbox"/> Insured - Meets OHIP eligibility criteria <input type="checkbox"/> Uninsured - Screening: Patient responsible for payment	
Lipid Assessment (includes Cholesterol, HDL-C, Triglycerides, calculated LDL-C & Chol/HDL-C ratio; individual lipid tests may be ordered in the "Other Tests" section of this form)		Specify one below:	
Albumin / Creatinine Ratio, Urine		<input type="checkbox"/> Insured - Meets OHIP eligibility criteria: osteopenia; osteoporosis; rickets; renal disease; malabsorption syndromes; medications affecting vitamin D metabolism	
Urinalysis (Chemical)		<input type="checkbox"/> Uninsured - Patient responsible for payment	
Neonatal Bilirubin:		<input checked="" type="checkbox"/> Vitamin D (25-Hydroxy)	
Child's Age: days hours		Insured - Meets OHIP eligibility criteria: osteopenia; osteoporosis; rickets; renal disease; malabsorption syndromes; medications affecting vitamin D metabolism	
Clinician/Practitioner's tel. no.		<input type="checkbox"/> Uninsured - Patient responsible for payment	
Patient's 24 hr telephone no.		<input type="checkbox"/> Other Tests - one test per line	
Therapeutic Drug Monitoring:		Measles titer	
Name of Drug #1		Mumps titer	
Name of Drug #2		Varicella titer	
Time Collected #1 hr. #2 hr.			
Time of Last Dose #1 hr. #2 hr.			
Time of Next Dose #1 hr. #2 hr.			
I hereby certify the tests ordered are not for registered in or out patients of a hospital.		Specimen Collection Time Date	
Victoria Charko RN As per medical directive TCFHT-MD 15		<input checked="" type="checkbox"/> Fecal Occult Blood Test (FOBT) (check one)	
x 		<input type="checkbox"/> FOBT (non CCC) <input type="checkbox"/> ColonCancerCheck FOBT (CCC) no other test can be ordered on this form	
Clinician/Practitioner Signature Date 01/03/2017		Laboratory Use Only	



Date received _____ PHOL No. _____

General Test Requisition

ALL Sections of this Form MUST be Completed

<p>1 - Submitter</p> <p style="text-align: right;">Courier Code</p> <p>790 Bay Street Suite 522, Box 58/59 Toronto, ON M5G 1N8</p> <p>Clinician Initial / Surname and OHIP / CPSO Number SNS/Shaw/022777</p> <p>Tel: 416-591-1222 Fax: 416-591-1227</p> <p>cc Doctor Information</p> <p>Name: _____ Tel: _____ Lab/Clinic Name: _____ Fax: _____ CPSO #: _____ Address: _____ Postal Code: _____</p>	<p>2 - Patient Information</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>Health No. _____</td> <td>Sex M</td> <td>Date of Birth: 2015/01/01</td> </tr> <tr> <td>Medical Record No. _____</td> <td colspan="2"></td> </tr> <tr> <td colspan="2">Patient's Last Name (per OHIP card) Mouse</td> <td>First Name (per OHIP card) Mickey</td> </tr> <tr> <td colspan="3">Patient Address 31 Inwood Ave Toronto, ON M4J 3Y2</td> </tr> <tr> <td>Postal Code M4J 3Y2</td> <td colspan="2">Patient Phone No. 416-466-8214</td> </tr> <tr> <td colspan="3">Submitter Lab No. _____</td> </tr> <tr> <td colspan="3">Public Health Unit Outbreak No. _____</td> </tr> </table> <p>Public Health Investigator Information</p> <p>Name: _____ Health Unit: _____ Tel: _____ Fax: _____</p>	Health No. _____	Sex M	Date of Birth: 2015/01/01	Medical Record No. _____			Patient's Last Name (per OHIP card) Mouse		First Name (per OHIP card) Mickey	Patient Address 31 Inwood Ave Toronto, ON M4J 3Y2			Postal Code M4J 3Y2	Patient Phone No. 416-466-8214		Submitter Lab No. _____			Public Health Unit Outbreak No. _____													
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Submitter Lab No. _____																																	
Public Health Unit Outbreak No. _____																																	
<p>3 - Test(s) Requested (Please see descriptions on reverse)</p> <p>Test: Enter test descriptions below</p> <p>Measles IgG Immune Status Mumps IgG Immune Status Rubella IgG Immune Status Varicella - Zoster IgG Immune Status Hepatitis A Virus Immune Status Hepatitis B Virus Immune Status</p>	<p>Hepatitis Serology</p> <p>Reason for test (Check (✓) only one box):</p> <p><input checked="" type="checkbox"/> Immune status <input type="checkbox"/> Acute infection <input type="checkbox"/> Chronic infection</p> <p>Indicate specific viruses (Check (✓) all that apply):</p> <p><input checked="" type="checkbox"/> Hepatitis A <input checked="" type="checkbox"/> Hepatitis B <input type="checkbox"/> Hepatitis C (testing only available for acute or chronic infection, no test for determining immunity to HCV is currently available)</p>																																
<p>4 - Specimen Type and Site</p> <table border="0"> <tr> <td><input checked="" type="checkbox"/> blood / serum</td> <td><input type="checkbox"/> faeces</td> <td><input type="checkbox"/> nasopharyngeal</td> </tr> <tr> <td><input type="checkbox"/> sputum</td> <td><input type="checkbox"/> urine</td> <td><input type="checkbox"/> vaginal smear</td> </tr> <tr> <td><input type="checkbox"/> urethral</td> <td><input type="checkbox"/> cervix</td> <td><input type="checkbox"/> BAL</td> </tr> <tr> <td><input type="checkbox"/> other - _____</td> <td colspan="2"></td> </tr> </table>	<input checked="" type="checkbox"/> blood / serum	<input type="checkbox"/> faeces	<input type="checkbox"/> nasopharyngeal	<input type="checkbox"/> sputum	<input type="checkbox"/> urine	<input type="checkbox"/> vaginal smear	<input type="checkbox"/> urethral	<input type="checkbox"/> cervix	<input type="checkbox"/> BAL	<input type="checkbox"/> other - _____			<p>Patient Setting</p> <p><input checked="" type="checkbox"/> physician office/clinic <input type="checkbox"/> ER (not admitted) <input type="checkbox"/> inpatient (ward) <input type="checkbox"/> inpatient (ICU) <input type="checkbox"/> institution</p>																				
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<p>5 - Reason for Test</p> <table border="0"> <tr> <td><input type="checkbox"/> diagnostic</td> <td><input checked="" type="checkbox"/> immune status</td> <td rowspan="2">Data Collected: _____</td> </tr> <tr> <td><input type="checkbox"/> needle stick</td> <td><input type="checkbox"/> follow-up</td> </tr> <tr> <td><input type="checkbox"/> prenatal</td> <td><input type="checkbox"/> chronic condition</td> <td>Onset Date: _____</td> </tr> <tr> <td><input type="checkbox"/> immunocompromised</td> <td colspan="2"></td> </tr> <tr> <td><input type="checkbox"/> post-mortem</td> <td colspan="2"></td> </tr> <tr> <td><input type="checkbox"/> other - _____</td> <td colspan="2"></td> </tr> </table>	<input type="checkbox"/> diagnostic	<input checked="" type="checkbox"/> immune status	Data Collected: _____	<input type="checkbox"/> needle stick	<input type="checkbox"/> follow-up	<input type="checkbox"/> prenatal	<input type="checkbox"/> chronic condition	Onset Date: _____	<input type="checkbox"/> immunocompromised			<input type="checkbox"/> post-mortem			<input type="checkbox"/> other - _____			<p>Clinical Information</p> <table border="0"> <tr> <td><input type="checkbox"/> fever</td> <td><input type="checkbox"/> gastroenteritis</td> <td><input type="checkbox"/> respiratory symptoms</td> </tr> <tr> <td><input type="checkbox"/> STI</td> <td><input type="checkbox"/> headache / stiff neck</td> <td><input type="checkbox"/> vesicular rash</td> </tr> <tr> <td><input type="checkbox"/> pregnant</td> <td><input type="checkbox"/> encephalitis / meningitis</td> <td><input type="checkbox"/> maculopapular rash</td> </tr> <tr> <td><input type="checkbox"/> jaundice</td> <td colspan="2"></td> </tr> <tr> <td><input checked="" type="checkbox"/> other - _____</td> <td colspan="2">Clinically well</td> </tr> </table> <p><input type="checkbox"/> influenza high risk - _____ <input type="checkbox"/> recent travel - _____</p>	<input type="checkbox"/> fever	<input type="checkbox"/> gastroenteritis	<input type="checkbox"/> respiratory symptoms	<input type="checkbox"/> STI	<input type="checkbox"/> headache / stiff neck	<input type="checkbox"/> vesicular rash	<input type="checkbox"/> pregnant	<input type="checkbox"/> encephalitis / meningitis	<input type="checkbox"/> maculopapular rash	<input type="checkbox"/> jaundice			<input checked="" type="checkbox"/> other - _____	Clinically well	
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For HIV, please use the HIV serology form. - For referred cultures, please use the reference bacteriology form. To re-order this test requisition contact your local Public Health Laboratory and ask for form number F-SD-SCG-1000. Current version of Public Health Laboratory requisitions are available at www.publichealthontario.ca/requisitions
The personal health information is collected under the authority of the Personal Health Information Protection Act, s. 36 (1)(c)(i) for the purpose of clinical laboratory testing. If you have questions about the collection of this personal health information please contact the PHOL Manager of Customer Service at 416-335-6556 or toll free 1-877-604-4587. F-SD-SCG-1000 (04/2013)



TCFHT-MD15 Stamp

S: Requires • «vaccine»«injection»«, last dose given • ago»

- No adverse reaction to past immunizations/injections

- «NKDA»«Allergies to • noted»

«- Not immunocompromised»«, not pregnant»

O/E:

- Well«; afebrile, no rashes, no severe/acute illness»

A:

- Reviewed possible side effects

- «Immunization»«Injection» administered «tandem»«3:1» as per details below, pt tolerated well

«- Sucrose solution given prior to injection»

«- Distraction methods used»

«- Topical anaesthetic applied to skin 20 mins prior to injection»

P:

- Advised pt to wait X 15mins post-injection for observation; no adverse reaction reported

«- Pt aware to RTC in • for next injection»

*actions and interventions in accordance with Medical Directive TCFHT-MD15